

- 12 -

CLAIMS

1. Fuel system for an internal combustion engine operating with a liquid fuel and comprising a fuel reservoir intended for the said fuel as well as an additive reservoir, characterized in that the additive reservoir comprises a chamber that is formed in a concave recess of the wall of the fuel reservoir.
2. Fuel system according to Claim 1, characterized in that the additive is intended to be added to the fuel and in that the chamber communicates with the fuel reservoir by means of an opening provided through it.
3. Fuel system according to Claim 2, characterized in that the chamber includes a system for metering the additive from the chamber into the reservoir, via the aforementioned opening, the said metering system comprising a pump and an injector passing through the aforementioned opening.
4. Fuel system according to Claim 2 or 3, characterized in that the additive is added to the fuel just after the fuel reservoir has been filled, in a quantity calculated by an on-board computer or a calculator connected to a device enabling the opening and closing of the fuel reservoir to be detected and in that the computer/calculator is capable of calculating the volume of fuel introduced during filling and of consequently metering the additive.
5. Fuel system according to any one of Claims 2 to 4, characterized in that:
  - the fuel is diesel and the engine is a compression-ignition engine; and
  - the additive comprises a composition, dissolved in a hydrocarbon solvent, of a catalyst for the low-

- 13 -

temperature combustion of carbonaceous solid particulates produced by the incomplete combustion of diesel in the engine.

- 5 6. Fuel system according to any one of the preceding claims, characterized in that the chamber is closed by a lid made of the same material as that of the fuel reservoir.
- 10 7. Fuel system according to any one of the preceding claims, characterized in that it includes a tube for filling the additive reservoir emerging in the tube for filling the fuel reservoir.
- 15 8. Fuel system according to any one of the preceding claims, characterized in that it includes a tube for degassing the additive reservoir emerging in the tube for filling the fuel reservoir.
- 20 9. Method for manufacturing a fuel system according to any one of the preceding claims, wherein:
- a reservoir for the said fuel is manufactured, of which the wall has a recess that is concave on its  
25 outer face;
  - a lid is manufactured;
  - the said lid is hermetically attached to a  
30 peripheral edge of the aforementioned concave recess, so as to form a chamber;
  - an additive is introduced into the chamber before or after the lid is attached; and
  - 35 - the chamber is connected to a system for metering the additive before or after the additive is introduced into the chamber.

- 14 -

10. Method according to the preceding claim,  
characterized in that the reservoir and the lid are  
made of a thermoplastic material and in that the  
reservoir is manufactured by blow-extrusion and the lid  
5 by injection.